```
> > > > > > > > < < < < < < < <
```

# THE PLOTTER

COMPUTING THE FUTURE--
IN CLACKAMAS COUNTY

| | |
|---|---|
| EDITED BY: | DICK WAGNER |
| CHAIRMAN: | JACK ARMSTRONG |
| V/CHAIRMAN: | BILL DUNLOP |
| SECRETARY: | DICK WAGNER |
| TREASURER: | ROD GOWEN |
| PR OFFICER: | BOB EVANS |
| LIBRARIANS: | BILL DUNLOP |
| | ALICE DUNLOP |

## MEETING

The NOVEMBER meeting will be:

on: SUN., NOVEMBER 21 1993

MEETING        2:00 TO 5:00 P.M.
at: Rod Gowen's home
    14784 S. Quail Circle
    Oregon City

WHAT YOU WILL FIND IN THIS ISSUE:
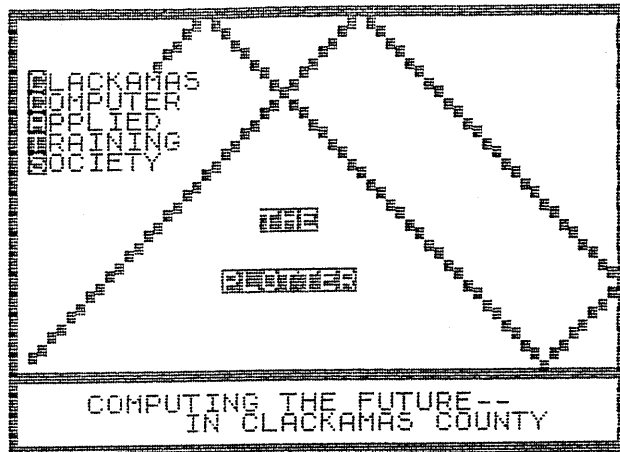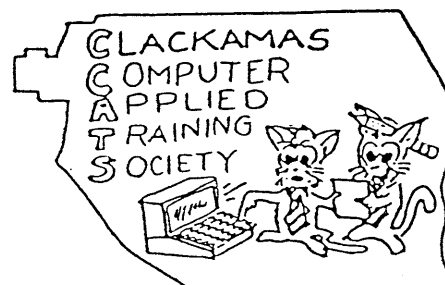
# FROM THE EDITOR'S DESK

Our lack of knowledge about putting a book together and publishing it has really upset our ego. Even with all of the text available it still required copying it and about 100 pages is a good amount of material to copy. Well, we are to the point of a little touch up here and there and then developing a good index.

This issue has a couple of subjects that I found particularly interesting to work on. The comic strip copy from the Shoe strip was a trial to get a good optical scan from the news paper. I found that the original contained the usual dots to make it possible to print from a solid drawing. These dots were of a consistant pattern where there should be white. My first effort to delete these dots in the editing processes was a complete waste of time. I finally blanked off the surrounding area and made a photo copy of the area I wanted. This pretty well cleaned up the background. Then I made my optical scan. From this I added lines, made deletions, etc in the editing process. The left border was touched up to make it look like it had also

>> >>

Continued from page 1
been screened. The resulting picture was then copied on the printer and used as a paste up. I could have used the photo copy for this purpose, using whiting to clean it up but then the addition of the left border would have been a solid line, looking out of place. Pretty good for a nephite at scanning.

The other subject is a reproducion of a nice program by Imre Auersvacher, an astonomer, that was published in a 1987 issue of CTM magazine. The original was produced from a 2040 printer with parts in reverse type. As can be expected, the published program was practically indistingishable where reverse type was used. From the author's comments I pieced this together with headings about correct. The program as I present it does not use reverse type as my printer will not reproduce it (probably the Oliger printer IF does not send it to the printer).

The reason that I wanted this Sunrise Sunset Time program was that I had received a copy of a letter, courtesy of Don Lambert, from a Jack H. Payne, concerning this subject. He has for some years published fishing and hunting guides based on sunrise and sunset times. As he publishes a one month series based on location, it takes a lot of computer time for each location, about 4 hours according to Jack. Well, he desires to switch from the 2068 computer to a 286 IBM using QuickBasic in hopes it will speed up the process. Not being a programmer with this capability, he needs assistance in making the conversionm. I suspect that there is more program than what I show. Hopefully, I will have more information from Jack that I can use in the next news letter. Maybe, ultimately there is someone out there who would be interested in helping a fellow 2068 user and earn a few sheckels in the process. Jack can be located at this address: Solunar Services, Inc., 1107 N. Morgan Street, Rushville, IN 46173.

This month I have included the GW-BASIC program for designing a zener diode voltage regulator. The program for printing the diagram is also given. In this case, the diagram printout is by using the Ctrl-PrintScrn, making a rather large picture. Last month the 2068 program included the diagram, the screen image then being copied via the USE 9 screen copy program from Jack Dohany. By the way, I wonder what has happened to Jack; I need a corrected 2068-Spectrum EPROM for one that that lacks underline capability, plus Inverse Video (which I just learned while working with the sunrise sunset program. Switching to Spectrum mode works OK).

## BAR CODE?
By: Bill  Dunlop

If your business is small enough to be run using only common sence and your trusty 2068 you already know that the equipment to use IPC codes is way beyond your pocketbook. Fear not, help is near! Try Bills' Alphanumeric Resource.

Using a bit of thinking and our faithful 2068 we can "code" every item in our shop individually or by type and supplier. Using 5 symbols we can "code" over 14 1/2 MILLION items so there is little chance that any one-person type business will run out of space.

With only 5 symbols to read I do not need a laser or UPC bars to identify anything, plus, the symbols I use are all ones I recognize already, no new Greek or odd cyrillian alphabets here. The keyword is alphabets. Our computer already uses numbers as letters, see your manual for the ASCII tables, so why shouldn't we be able to use the letters as numbers. We can. If we use them in the same order that our computer uses them then any database program can order them and recall them easily. The labels could even be computer generated.

2

The code goes like this: 0 thru 9 is followed by the upper case alphabet (A thru Z) followed by the alphabet in lower case (a thru z) thus giving us a "number" set of 62 characters(10+52) for each set. Thus the "number" following 00009 is 0000A and the "number" following 0000Z would be 0000a. This goes on until the set is full and the next set starts, thus 0000z + 1 would be 00010. And on thru to zzzzz which in decimal is 14,776,397! And you thought converting from decimal to binary or hex was fun!

If you cannot forsee ever needing that large of a number you may be happier using 4 digits giving a maximum "number" of zzzz which is 238,389 decimal.

PS: you may want to censor out some combinations, as the State has learned with licence plates!

```
 1 REM
Bill's Alphanumeric Resource
 5 LET X=48
 10 LET Y=0
20 IF X>57 AND X<65 THEN  GO  TO
80
    REM non-alphanumeric
30 if X>90 AND X<97 THEN  GO  TO
80
    REM non-alphanumeric
40 IF X=123 THEN STOP
50 PRINT Y;
60 PRINT " = "; CHR$ X
70 LET Y=Y+1
80 LET X=X+1: GO TO 20
```

## SUNRISE & SUNSET TIMES
### By: Ira Auerbacher

I have a very good program for you amateur radio people. The program accurately computes sunrise/sunset and the duration of daylight for any day of the year at any location on the globe. The computed times are accurate to the minute given, thus are entirely suitable for use by amateur radio stations, airports, military bases, observatories, weather stations, etc. The program is written for use with the Timex/Sinclair 2068 color computer, but the program may be easily translated to other BASICS.

Sunrise and sunset occur when the upper edge of the Sun's disk appears to be exactly on the horizon. Equivalently, this is when the center of the Sun's disk is geometrically 0 degrees 50 minutes (50 minutes of arc) below the horizon (0 16' for the Sun's semidiameter, and 0 degrees 34 minutes for atmospheric refraction).

This is a fairly complex problem which requires the calculation of the Sun's right ascention & declination, the Sun's hour angle by spherical astronomy, and the Equation of Time (i.e., the difference between mean solar time and true or apparent solar). The local civil time of sunrise or sunset is then obtained by adding the equation of time plus 12 hours to the Sun's hour angle. Finally, the local solar times are converted to standard (clock) times, depending on the longitude of the location in question.

To run this program, you will need the longitude, latitude, and time zone of the place where the calculation is desired. When entering longitude and latitude, enter the degrees and minutes separated by a period. The computer will automatically convert the values to decimal degrees for you. Also, enter an "E" or "W" at the end of longitude input to indicate East or West of Greenwitch meridian. Use "N" or "S" at the end of the latidude input for North or South, respectively. If the E, N, W, or S is omited, the computer will assume the location in question is in the Northwestern Hemisphere, i.e. west longitudes and north latitudes. For example, the coordinates of Birmingham, AL are 86 degrees 49 minutes West longitude and 33 degrees 31 minutes North latitude. These would be entered into the computer as 86.49W and 33.31 N, respectively.

When entering time zones, use positive (+) numbers for the Western Hemisphere (i.e. Eastern Standard Time=EST=+5, CST=+6, MST=+7, and PST=+8, etc.). For example, the time

zone in Arizona would be +7 for Mountain Standard Time. If you are not sure of your proper coordinates or time zone, You may consult a map, an atlas, or similar reference book. Note that the program outputs the Standard Times of sunrise and sunset. If Daylight Saving time is in effect, you must add one hour to the times of sunrise/sunset (but not to the duration of daylight). Or you may have the computer do this for you automatically, by subtracting 1 from the zone on input,i.e. use +4 for EDT, +5 for CDT, MDT=+6, and PDT=+7, etc. The values will be correct for Daylight Time. Daylight Saving Time is usually observed from the last Sunday in April to the last Sunday on October. Some states (such as Arizona, Hawaii, and parts of Indiana) do not observe Daylight Saving Time, and always use Standard Time.

Below is a sample program run. The chart shows the time of sunrise and sunset, and the duration of daylight computed for Birmingham, Alabama during the month of November 1987. Note that all charts are computed for an entire month automatically for convenience. Also, the program is accurate for any date between 1700 - 2200 AD, and also gives accurate results for extreme latitudes. I hope you hams and amateur astronomers find this program to be useful.

Sunrise    Sunset Time

Place:BIRMINGHAM.  Long.:86.49W
Month:Nov.         Lat.:33.31N
Yr.  1987          Zone:+6

| Date | | Sunrise | Sunset | Length |
| --- | --- | --- | --- | --- |
| Day: | | AM: | PM: | Hrs: |
| Nov. 1 | Su | 6:06 | 4:56 | 10:50 |
| Nov. 2 | Mo | 6:06 | 4:55 | 10:48 |
| Nov. 3 | Tu | 6:07 | 4:54 | 10:47 |
| Nov. 4 | We | 6:08 | 4:53 | 10:45 |
| Nov. 5 | Th | 6:09 | 4:52 | 10:43 |
| Nov. 6 | Fr | 6:10 | 4:51 | 10:41 |
| Nov. 7 | Sa | 6:11 | 4:50 | 10:39 |
| Nov. 8 | Su | 6:12 | 4:50 | 10:38 |
| Nov. 9 | Mo | 6:13 | 4:49 | 10:36 |
| Nov.10 | Tu | 6:14 | 4:48 | 10:34 |
| Nov.11 | We | 6:15 | 4:47 | 10:33 |
| Nov.12 | Th | 6:16 | 4:47 | 10:31 |
| Nov.13 | Fr | 6:17 | 4:46 | 10:30 |
| Nov.14 | Sa | 6:17 | 4:45 | 10:28 |
| Nov.15 | Su | 6:18 | 4:45 | 10:26 |
| Nov.16 | Mo | 6:19 | 4:44 | 10:25 |
| Nov.17 | Tu | 6:20 | 4:44 | 10:23 |
| Nov.18 | We | 6:21 | 4:43 | 10:22 |
| Nov.19 | Th | 6:22 | 4:43 | 10:21 |
| Nov.20 | Fr | 6:23 | 4:42 | 10:19 |
| Nov.21 | Sa | 6:24 | 4:42 | 10:18 |
| Nov.22 | Su | 6:25 | 4:41 | 10:16 |
| Nov.23 | Mo | 6:26 | 4:41 | 10:15 |
| Nov.24 | Tu | 6:27 | 4:41 | 10:14 |
| Nov.25 | We | 6:28 | 4:40 | 10:13 |
| Nov.26 | Th | 6:29 | 4:40 | 10:11 |
| Nov.27 | Fr | 6:30 | 4:40 | 10:10 |
| Nov.28 | Sa | 6:30 | 4:40 | 10:09 |
| Nov.29 | Su | 6:31 | 4:39 | 10:08 |
| Nov.30 | Mo | 6:32 | 4:39 | 10:07 |

# MEETING PLACE

You have hopefully noticed that our November meeting has a change of time and place. Rod¨decided that we could more conveniently finish up the work on the publication at his home where a printer would be available. Now--how to find his home.

If coming off of Highway 205, take the Oregon City-Park Place exit, which is also signed Park Place-Molalla, and take a tour through the back country on Highway 213 until you reach the stop light at the top of the hill. This will be Beaver Creek Rd. Also, there is a shopping center called Berry Hill. Get in the left turn lane to turn left on Beaver Creek Rd. Go to the next stop light at Maplelane Rd., again the left lane. Make a left turn on Maplelane Rd. and go to the Country Village Mobile Home park. Take a left turn on Country Village Ln. one short block to the next street on the left which is the entrance to S. Quail Grove Circle. Make another immediate left, follow the road around to the right to the second house after the office on the right side of S. Quail Grove Circle. Street name does not show.

If going by way of Oregon City, take Molall Ave and Beaver Creek Rd to the intersection of Hwy 213, go thru the intersection and follow the above.

Sorry I forgot to include the long program. See the Dec. issue.

# MANAGING YOUR MONEY VERSION 9.0

## A Review
by: Rod Gowen

What is one of the primary reasons for us to use a computer at home? Besides word processing, what is the next most important use of a home computer? Financial processing! Checkbook management and financial planning.

Over the past few years I have tried a multitude of financial programs on a variety of computers. From the Sinclair ZX-80 to the 386 clone, from Checkbook Manager to Quicken and Managing Your Money. I have tried shareware and commercial programs alike. On this occasion I would like to tell you a bit about Managing Your Money V9.0 from Andrew Tobias and MECA software.

MYM 9.0 is truly a full-featured package. It includes checkbook management, stocks and bonds, investment planning, retirement planning, insurance planning, amortizations and loans as well as a net worth calculator. It will even export your data to a tax program. The learning curve on this program is one of the shortest I have seen for a program with as many features.

Installation is very simple. As soon as the program is installed, it will walk you through a tutorial or go directly into the program. You can have multiple data sets and easily switch between them. There is extensive online help and the manual is very well laid out.

One of the best things about this program is its' customizability. It can be set up to your custom needs. Colors are very easy to set and all screens and windows can be set to your favorite colors. The program supports many, many printers and can be set up to print checks and reports in your custom format.

There are several custom user settings that make it easy to individualize the program. The program is fully menu driven and supports mouse use. After the program is set up and your money accounts are opened, the program will come up in the check register of the account you last used. At least, the register choice on the Money Menu is highlighted. Pressing ENTER puts you into it. Once there you simply press Alt+S to write a check (Spend), Alt+R to make a deposit (Receive), Alt+T to Transfer money between accounts. The entries can be sorted. The data in the registers can be printed out in report format that can be customized to your liking.

The check printing is set up to print to a wide variety of formfeed checks. From personal sized to commercial, with no voucher to top voucher to side voucher. Once you have picked a check you can then modify or customize the printout to your personal liking. I found it helpful to print a few test checks on plain paper and then hold the check and printout up to a light to see how the lines line up. At $.20 per check, I do not like to waste formfeed checks.

There are several financial calculators built in to the program. You can do simple math to figuring out what your mortgage or loan payment will be based on varying interest rates and principals.

This package even includes a "Desk" menu. On it you will find a phone book with dialer, a card file that will print labels, an appointment calendar, a reminder list, a to-do list and even a built-in word processor! How much more could you want?

Under the "Analyze" menu you can see how what you are doing financially will affect the future of your overall financial picture.

I could probably go on here and fill up the entire 8 pages of this newsletter with descriptions of the power of this package, but I will stop here and just say that, if you want more info on this program, I would be glad to fill you in on anything that you would like to find out.

I can honestly say that I have never seen so much power in a package selling for a price of under $50!

If you have a favorite financial SEE PAGE 8

# ZENER DIODE VOLTAGE REGULATOR

```
10 SCREEN 2
20 CLS:PRINT "ZENER DIODE VOLTAGE REGULATOR DESIGN"
30 PRINT: INPUT"MINIMUM DC INPUT VOLTAGE ";V1
35 INPUT"MAXIMUM DC INPUT VOLTAGE ";V2
40 INPUT "MINIMUM LOAD CURRENT (IN MA) ";I1
50 INPUT "MAXIMUM LOAD CURRENT (IN MA) ";I2
60 I1=I1*.001: I2=I2*.001
70 INPUT "ZENER DIODE VOLTAGE ";VZ
80 R=(V1-VZ)/(1.1*I2)
90 P=VZ*(((V2-VZ)/R)-I1)
100 R=INT(R*10+.5)/10:P=INT(P*100+.5)/100
110 PRINT: PRINT"REQUIRED SERIES RESISTANCE =";R;"OHMS"
120 PRINT "MINIMUM ZENER DIODE RATING = ";P;"WATTS"
130 PRINT "MINIMUM WATTS RATING OF R= ";: PRINT (V2-VZ)*I2
150 Z=VZ*((V1-VZ)/R): Z=INT(Z*100+.5)/100
160 PRINT "MINIMUM ZENER DIODE RATING WITH NO LOAD =";Z;" WATTS"
170 PRINT "ANOTHER CALCULATION? (Y OR N) ";:INPUT A$: IF A$="Y" THEN 20
180 IF A$+"N" THEN 190
190 PRINT:END


10 'ZENER DIODE VOLTAGE REGULATOR
20 'PROGRAM ORIGINATED FROM "CIRCUIT DESIGN PROGRAMS FOR THE TRS-80"
30 'DICK WAGNER 8/93
35 SCREEN 1: KEY OFF
40 PSET (44,80): DRAW "R30"
50 DRAW "E2 F4 E4 F4 E4 F4 E4 F2"
60 DRAW "R54 D20 L5 H3"
70 PSET (156,100)
80 DRAW "R5 F3"
90 PSET (156,100)
100 DRAW "G4 R8 H4"
110 PSET (156,104)
120 DRAW "D20 L6 R12 BD2 BL10 R8 BD2 BL6 R4 BD2 BL2 R1"
130 DRAW "BU50 R60"
140 CIRCLE (220,80),2
150 CIRCLE (42,80),2
160 CIRCLE (156,80),2
170 LOCATE 5,1: PRINT "ZENER DIODE VOLTAGE REGULATOR"
180 LOCATE 9,12: PRINT "R"
190 LOCATE 10,1: PRINT "+DC"
200 LOCATE 11,1: PRINT "INPUT"
210 LOCATE 10,30: PRINT "+REG."
220 LOCATE 11,30: PRINT "OUTPUT"
230 LOCATE 13,12: PRINT "ZENER"
240 LOCATE 14,12: PRINT "DIODE"
```



ZENER DIODE VOLTAGE REGULATOR
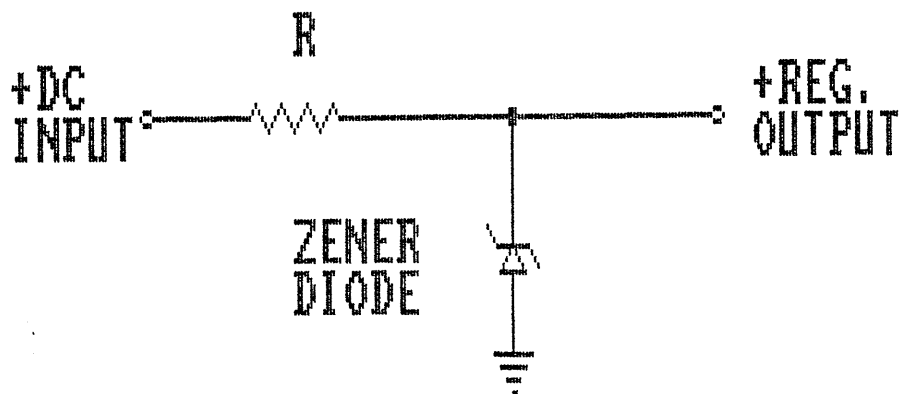
# RMG UPDATE NEWS FOR NOVEMBER 1993
## Volume 5, Number 11

### * * RMG NEWS * *

Welcome back! We hope that you are enjoying fall and that you and yours are all in good health. We look forward to hearing from you from time to time and it seems that we always hear more from more of you in the fall. Could it be that you are getting more time on your computers than in the spring and summer?

We are still sorting boxes and finding things that we could not locate earlier or that we did not realize that we still had in stock! We hope that those of you who have ordered things that we could not find will bear with us. It may be a while, but we will ventually get to all of the boxes. In going through all of these boxes, we find that we have a bit too many of certain items in stock and would like to see someone making better use of them than sitting in our storeroom. On the back of this sheet you will find a list of specials on our PRE-CHRISTMAS CLEARANCE SALE. We hope that you will see something on it you can use.

## NEWSLETTERS AND USER GROUPS

Are you aware of all of the resources that are available to you as a Sinclair/Timex user? If not, read on! There are a lot of good newsletters still being published by several groups and individuals. Be sure to tell them where you saw it! Here is a short list to help you find some of them:

SINC-LINK
14 RICHOME COURT
SCARBOROUGH, ONTARIO, CANADA
M1K 2Y1 $20/YR MEMBERSHIP

CATS NEWSLETTER
P.O. BOX 11017
TAKOMA PARK, MD 20913
$12/YR

ZXIR CLIVE ALIVE!
335 W. NEWPORT ROAD
HOFFMAN ESTATES, IL 60195
$10/YR TO: ABED KAHALE

UPDATES
513 EAST MAIN
PERU, IN 46970
$18/YR

LIST
5 PERI LANE
VALLEY STREAM, NY 11581
$16/YR LG S.A.S.E./FREE SAMPLE

QZX
2025 O'DONNELL DRIVE
LAS CRUCES, NM 88001
$15/YR

I.S.T.U.G. (INDIANA)
513 EAST MAIN
PERU, IN 46970
$12/YR

SMUG BYTES
2461 S. 79TH STREET
WEST ALLIS, WI 53219
$10/YR

THE PLOTTER
14784 S. QUAIL GROVE CIRCLE
OREGON CITY, OR 97045
$12/YR TO: RMG ENTERPRISES

THE HACKER (PC SHAREWARE)
2345 MOORPARK WAY
HENDERSON, NV 89014
$15/YR TO: STEVE SAWCHUCK, JR.

NITE-TIMES NEWS
417 S. 47TH AVENUE
BELLWOOD, IL 60104
$12/YR

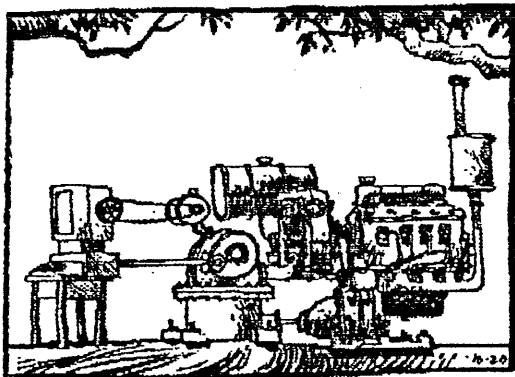## Keep watchin' for more news! Rod Gowen, Owner, RMG Enterprises

program, why not write a short *review of it and send it in to THE PLOTTER* for comparison? This goes for any program that you use or have tried. We want you to write!

## EMERGENCY POWER SUPPLY
### Dick F. Wagner

Those computer users who live in high hazzard areas where hurricanes, floods, tornadoes, etc. abound can take advantage of this modern diesel powered electic generator for power to operate their computers. It is difficult to keep up with the state of the art so don't delay in making this installation or you will be out of date tomorrow.



HEAVY DUTY COMPUTER POWER SUPPLY

## CCATS
14784 S. Quail Grove Circle
Oregon City, OR 97045

29 USA

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PM
2 NOV
1993

(place label here)